

# A survey of Nahan's Francolin *Francolinus nahani* in two tropical rainforests of Uganda

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**Summary:** Surveys of Nahan's Francolin *Francolinus nahani* were carried out in Budongo and Mabira forests in September and October 1996 respectively. Playbacks of the recorded calls formed the main survey method. Calls of this species were recorded for the first time, in 1995<sup>b</sup>, when it was rediscovered in Mabira forest after having been 'missing' for 74 years! Positive responses were obtained in the two localities, at a total of 17 sites distributed in different forest types. Group size ranged between 2–5 individuals. Further detailed research into the conservation status, ecological requirements and monitoring, and other biological data of the Nahan's Francolin is strongly recommended.

Nahan's Francolin *Francolinus nahani* is one of 36 species of endemic African francolins. In Uganda, it is reported to occur in five different forests<sup>5</sup>. Very little is known of its basic biology, ecology and its conservation status is of global concern, although, as yet, insufficient data on its conservation status is available to assign it to a threat category, so it is described as 'data deficient'.

A recent report on the nesting<sup>6</sup> and calls (I Owiunji, pers obs) of this little known bird from Budongo Forest Reserve formed the basis to this survey. All previous information obtained from sight records was compiled during the colonial era in the early 1900s<sup>1,4</sup>. It was therefore important that a survey be undertaken to determine the current status of this species in Uganda, and its occurrence in different forest blocks and types. This preliminary survey aimed to determine the response of the species to call playback, which might prove an adequate census method for longer term monitoring and ecological studies.

## Study area and methods

Budongo and Mabira are part of the remnant Lowland Tropical Rain Forests in Uganda. Both are managed under the Uganda Forestry Policy which serves a dual purpose. Under the forestry policy of sustainable utilisation, timber logging takes place in both reserves.

Budongo is a medium altitude reserve located on the west edge of the west arm of the rift valley, covering c430 km<sup>2</sup>. Budongo has been selectively logged since the 1940s and this continues to the present. Three main areas were surveyed in two days: site N3 was selectively logged in the 1950s–1968, W21 has been logged since the 1950s and was still being logged at the time of the survey, and N15 (Nyakafunjo) is unlogged Nature Reserve.

Mabira forest reserve covers 320 km<sup>2</sup> and is located 58 km west of Kampala along the road to Jinja. Some parts of this reserve were harvested in the early 1900s. Until 1988, intensive coffee/banana agriculture encroachment claimed large chunks of Mabira. Currently, c21% and 26 % of the reserve have been designated as strict Nature Reserve and Buffer Zone respectively.

Surveys were conducted by playback of recorded calls of Nahan's Francolin, using tapes



Forest site W21, where timber was being pit-sawn during the survey (Christine Dranzoa)



Timber obtained from W21 being loaded (Christine Dranzoa)

previously made in Budongo by I Owijunji and A Plumptre and soliciting responses through counter-calling and/or calling them out. A similar procedure has been used for monitoring rails in Aldabra<sup>3</sup>. In both study areas, existing trails served as transect lines. Budongo and Mabira forests were surveyed from 28–29 September 1996 and from 15–22 October 1996 respectively. Along each trail system, calling stations were established at 200 m intervals and calls played for 2–3 mins. Replays were made at least five times at each station while adjusting the volume alternately from high to low and vice versa. Five minutes were spent at each site waiting for counter-calling. If a response was elicited, we tried to attract the birds by playing the tape continuously for at least ten minutes to bring them into view. Individuals within each group attracted to playback were counted whenever possible and their location noted.

## Results and discussion

### Recorded calls

Nahan's Francolin responded to playback in both forest surveys. The call can last up to 16–20 s, becoming gradually louder approximately halfway through the call, particularly if there is another bird calling nearby. Fig 1 shows the call.

At all sites, where counter-calling was encountered, responses varied from instantaneous to a lag of c5–7 mins (total for which response time was noted = 15). Birds usually remained concealed. Two groups in Budongo, one in swamp forest and another in mixed forest, answered long after the tape had been stopped. In Mabira, a similar situation was observed in birds near Butuku. Dense vegetation usually in secondary forest or gaps and swampy areas appear to be favoured by the species. Five sites in which positive responses were registered were in swampy areas. This survey provided the first records of Nahan's Francolin in Mabira Forest since those by van Someren in 1916 and 1922<sup>1</sup>.

### Group size

Nahan's Francolin is elusive in dense vegetation. Only 23% (n=17) of groups were seen sufficiently well to

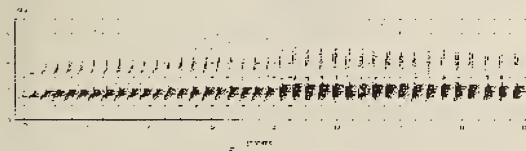


Fig 1. Sonogram of the territorial call of Nahan's Francolin *Francolinus nabani*

count accurately the number of birds. Number of individuals was 2–5, mean = 3.5 (n=4) (Table 1). Plumptre<sup>6</sup> recorded a group of seven birds in Budongo in 1995.

These surveys have revealed that Nahan's Francolin population estimates can be made using playback, and that they are still present in Mabira and Budongo forests despite active logging in Budongo, especially at site W21. We tried inducing birds to cross open areas in Budongo but were unsuccessful; four birds at Butuku (Mabira) did cross a track. Other birds appeared shy, upon reaching an open area they moved away from it.

**Table 1** Different sites, number of sample points (SP), positive group responses (+Ve) and number of individuals seen in a group (IG); NS = not seen

Site	SP	+Ve	IG
<b>BUDONGO</b>			
N3 selectively logged	27	5	2
N3 Swamp	3	3	NS
N15 unlogged	18	0	-
W21 logging continues	7	2	5,3
<b>MABIRA</b>			
Gangu Valley	10	1	NS
Namusha Hills	7	2	NS
Butuku Buffer zone	7	4	4
Grassland	9	1	NS
Nature Reserve	8	0	-
Radio Hill	5	0	-

### Future studies

This survey is part of a major study of the ecology and assessment of the population and conservation status of Nahan's Francolin in Uganda. It is hoped, with financial support, to produce a management strategy for the species in Uganda. Data will be gathered on the impact of selective logging of Budongo Forest on the long-term conservation of Nahan's Francolin, their distribution in all remnant forests, forest types, breeding, feeding behaviour and other ecological requirements.

### Acknowledgements

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